LAKEY'S HOT SPRINGS MOBILE MANOR #1 (PWS 3440005)
SOURCE WATER ASSESSMENT FINAL REPORT

June 25, 2001

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. This assessment is based on a land use inventory of the designated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

This report, *Source Water Assessment for Lakey's Hot Springs Mobile Manor #1, Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Lakey's Hot Springs Mobile Manor #1(PWS 3440005) drinking water system consists of three ground water sources. Well #1 had arsenic problems in the past and was disconnected from the system. Well #1 is now used as a single domestic well. Total coliform bacteria were detected in Well #1 in November 1999. From November 1998 to March 2000, arsenic levels in the well manifold ranged from 0.013 milligram per liter (mg/l) to 0.69 mg/l. Arsenic detections in November 1998 (0.069 mg/l), February 1999 (0.066 mg/l), and April 1999 (0.084 mg/l) exceeded the Maximum Contaminant Level (MCL) for arsenic (0.05 mg/l at the time of the detections). All levels detected in the well manifold from November 1998 to March 2000 exceeded the new MCL for arsenic. From June 1999 to November 2000, nitrate levels in the well manifold ranged from 0.198 mg/l to 2.6 mg/l. These levels are below the MCL of 10 mg/l for nitrate. Since the levels of arsenic and nitrate were detected in the well manifold, it is not possible to determine which well contributed these contaminants. Consequently, during the susceptibility analysis, all wells were assigned an arsenic detection at the wellhead.

A Sanitary Survey conducted in July 1997 recommended that well vents be properly installed on all three wells to meet standards. The Sanitary Survey also noted that Wells #2 and #3, which lie in the 100 year flood plain, do not have floor drains or sump pumps to protect the wells against surface runoff. In terms of total susceptibility, Well #1 rated high for inorganic compounds (IOCs), moderate for volatile organic compounds (VOCs), moderate for synthetic organic compounds (SOCs), and moderate for microbial contaminants. The high IOCs rating is due to arsenic detections above the MCL in the well manifold. The well drained soils in the area and the nearby locations of the Weiser River and Union Pacific Railroad contributed to the high rating for VOCs and SOCs.

In terms of total susceptibility, Well #2 rated high for IOCs, VOCs, SOCs, and microbial contaminants. The high IOCs rating is due to arsenic detections above the MCL in the well manifold. The well drained soils in the area and the nearby locations of a geothermal source, a sand and gravel pit, the Weiser River, and Union Pacific Railroad as well as system construction contributed to the overall ratings.

In terms of total susceptibility, Well #3 rated high for IOCs, VOCs, SOCs, and microbial contaminants. The high IOCs rating is due to arsenic detections above the MCL in the well manifold. The well drained soils in the area and the nearby locations of a geothermal source, a sand and gravel pit, the Weiser River, and Union Pacific Railroad as well as system construction contributed to the high ratings for IOCs, VOCs, SOCs, and microbial contaminants.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For Lakey's Hot Springs Mobile Manor #1, source water protection activities should first focus on correcting, if corrections have not been completed, the deficiencies outlined in the Sanitary Survey and protection of the wells from surface runoff. Since arsenic contamination detected in the well manifold exceeds the proposed drinking water standards, Lakey's Hot Springs Mobile Manor #1 should investigate various systems like ion exchange, reverse osmosis, or activated alumina that could be used to treat this problem. Any spills from the geothermal site, the sand and gravel pit, the Weiser River, and the Union Pacific Railroad should be monitored carefully. Most of the source water protection designated areas are outside the direct jurisdiction of the City of Council. Partnerships with state and local agencies and industry groups should be established and are critical to success. Disinfection practices should be implemented to reduce the risk of microbial contamination which was recorded in Well #1 in February 1999. Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil and Water Conservation District, and the Natural Resources Conservation Service.

A community with a fully developed source water protection program will incorporate many strategies. For assistance in developing protection strategies please contact the Boise Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR LAKEY'S HOT SPRINGS MOBILE MANOR #1, WASHINGTON COUNTY, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings used to develop the assessment also is attached.

Background

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

Level of Accuracy and Purpose of the Assessment

Since there are over 2,900 public water sources in Idaho, there is limited time and resources to accomplish the assessments. All assessments must be completed by May of 2003. An in-depth, site-specific investigation of each significant potential source of contamination is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho Department of Environmental Quality (DEQ) recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The Lakey's Hot Springs Mobile Manor #1 wells are community wells that serve approximately 28 people and approximately 19 connections. The wells are located in Washington County, to the east of the Weiser River and to the west of the City of Cambridge (Figure 1). The public drinking water system for Lakey's Hot Springs Mobile Manor #1 is comprised of three wells. Well #1 had arsenic problems in the past and was disconnected from the system. Well #1 is now used as a single domestic well.

Arsenic and total coliform bacteria detections represent the only significant water chemistry problems recorded in the public water system. The IOC nitrate was detected from June 1999 to November 2000 at levels well below the MCL. No detections of VOCs or SOCs were recorded.

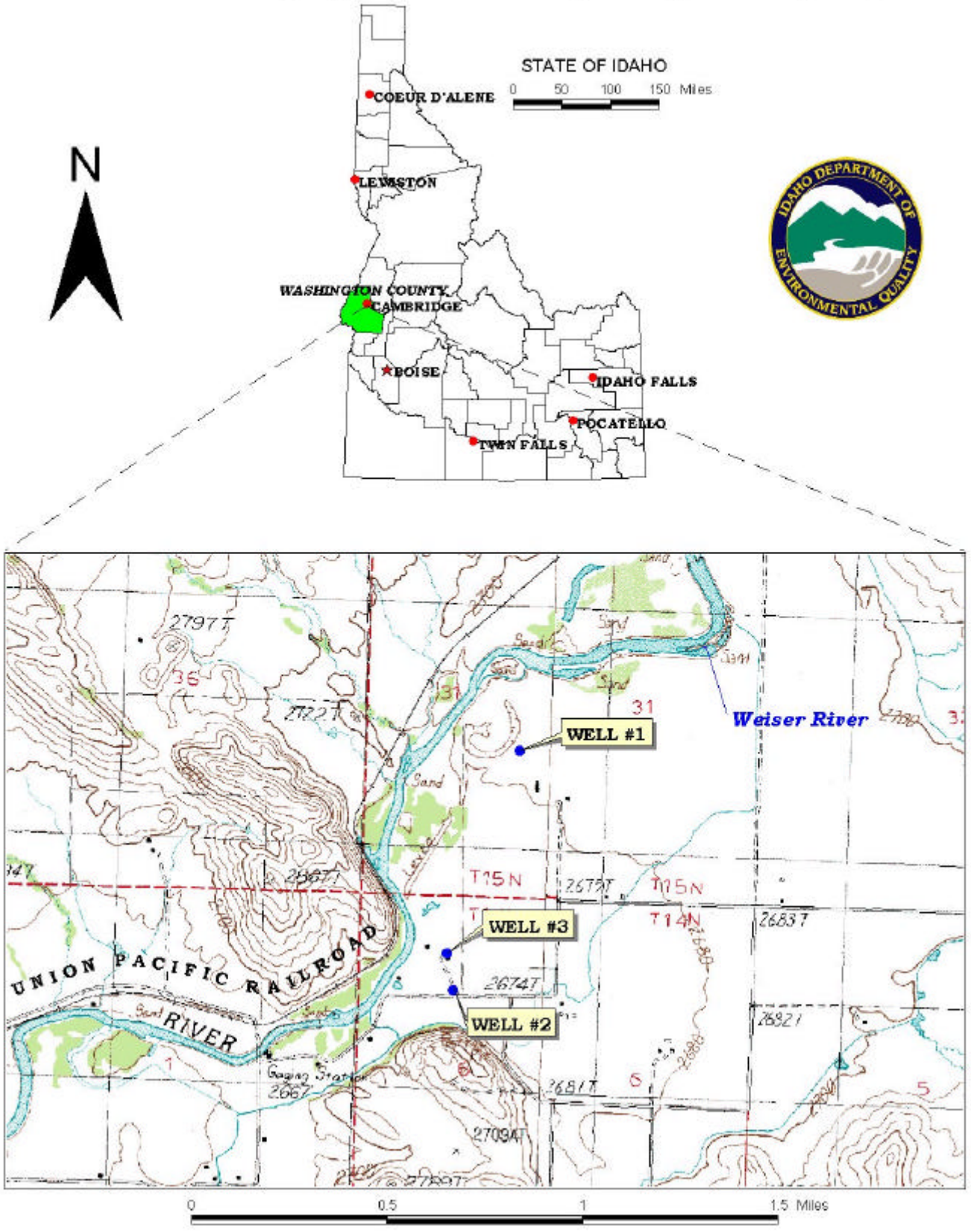
Defining the Zones of Contribution – Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel (TOT) zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) TOT for water associated with the Columbia River Basalt aquifer and the confined alluvial aquifer in the vicinity of the Lakey's Hot Springs Mobile Manor #1. The computer model used site specific data, assimilated by DEQ from a variety of sources including Lakey's Hot Springs Mobile Manor #1 well logs, other local area well logs, and hydrogeologic reports summarized below.

Wells #2 and #3 extract water from the confined alluvium above the Columbia River Basalt. Only Well #1 extracts water from the fractured aquifer of the Columbia River Basalt. Geologic formations associated with basalt of the Columbia Plateau are known to yield as much as several hundred gallons per minute (gpm) (IDWA, 1966). The Columbia River basalts are dense, exhibit columnar jointing in many places, and are folded and faulted leading to many fracture zones where ground water may collect. (Whitehead and Parliman, 1979). Basalt flows fracture at the surface as they cool. The fractures occur in the horizontal direction throughout the flow. Regional fractures hundreds or thousands of feet long may intersect several flows and have widely varying widths (Lum et al., 1990). The aquifer thickness ranges from 20 to 800 feet and the transmissivity ranges from 2,700 ft^2/day to 270,000 ft^2/day (Barker, 1979; Cohen and Ralston, 1980). Regional ground water recharge appears to follow the Weiser River valley from north to south.

The delineated source water assessment areas for Lakey's Hot Springs Mobile Manor #1 wells can best be described as oblate circles approximately one mile wide and one and a half miles long extending in all directions, predominantly north, from Lakey's Hot Springs Mobile Manor #1(Figures 2 and 3). The actual data used by DEQ in determining the source water assessment delineation areas are available upon request.

FIGURE 1. Geographic Location of Lakeys Hot Springs



Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

The dominant land use outside Lakey's Hot Springs Mobile Manor #1area is irrigated agriculture. Land use within the immediate area of the wellheads consists of residential property, a geothermal site, a sand and gravel pit, the Weiser River, and the Union Pacific Railroad.

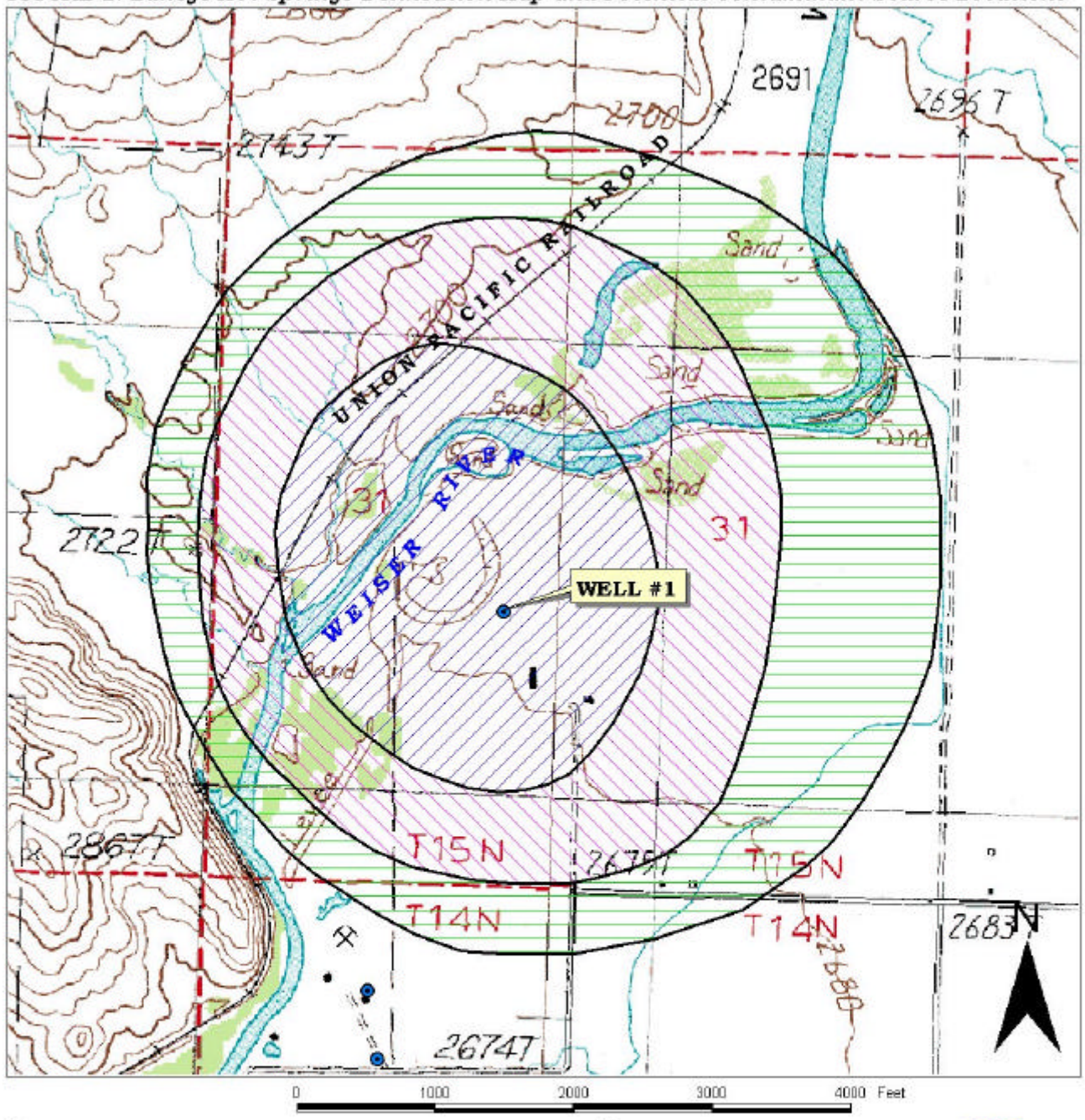
It is important to understand that a release may never occur from a potential source of contamination provided they are using best management practices. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination. These involve educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A contaminant inventory of the study area was conducted from December 2000 to January 2001. This process involved identifying and documenting potential contaminant sources within Lakey's Hot Springs Mobile Manor #1 Source Water Assessment Area through the use of computer databases and Geographic Information System (GIS) maps developed by DEQ.

Since the delineated source water protection areas encompass various portions of the Lakey's Hot Springs Mobile Manor #1 area, the different wells have different numbers and types of potential contaminant sources. Well #1 has a delineation that is crossed by the Weiser River and Union Pacific Railroad (Table 1). Wells #2 and #3 have delineations that encompass a geothermal site, a sand and gravel pit, and are crossed by the Weiser River and Union Pacific Railroad (Table 2). Figures 2 and 3 show the locations of these various potential contaminant sites relative to the wellheads.

FIGURE 2. Lakeys Hot Springs Delineation Map and Potential Contaminant Source Locations



LEGEND

Time of Travel Zones
1B (3 yr TOT)
2 (6 yr TOT)
3 (10 yr TOT)
Wellhead
Enhanced Inventory
CERCLIS Site
RCRIS Site
Dairy
LUST Site
Closed UST Site
Open UST Site
Business Mailing List
NPDES Site
Mine
AST
Toxic Release Inventory
EARA Title III Site (EPCRA)
Recharge Point
Injection Well
Group1 Site
Cyanide Site
Landfill
Wastewater Land App.Site

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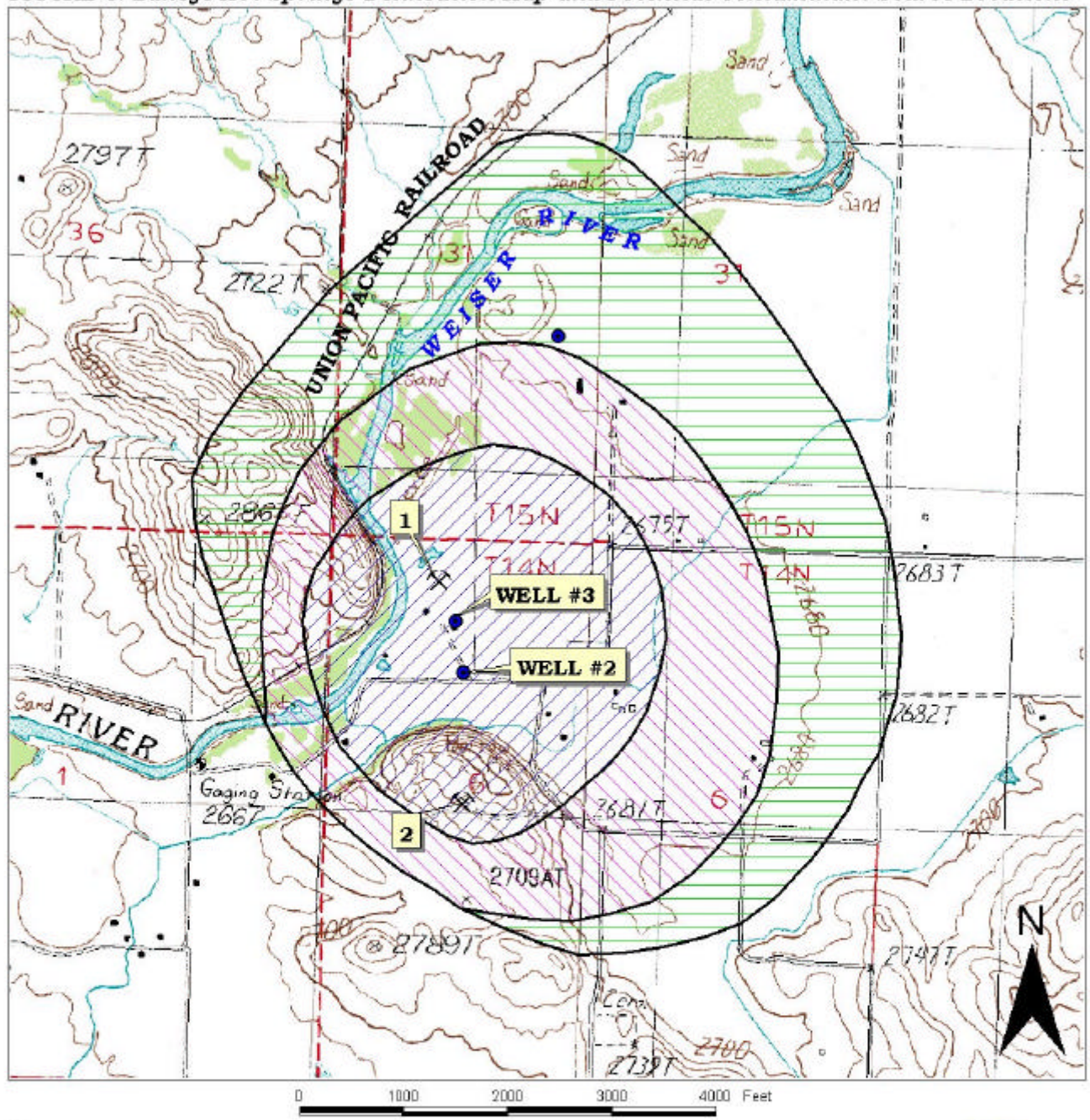
PWS# 3440005
WELL #1

FIGURE 3. Lakeys Hot Springs Delineation Map and Potential Contaminant Source Locations



LEGEND

Time of Travel Zones
- 1 (1 yr TOT)
- 2 (5 yr TOT)
- 3 (10 yr TOT)
- Wellhead
- Enhanced Inventory
- CERCLIS Site
- RCRIS Site
- Dairy
- LUST Site
- Closed UST Site
- Open UST Site
- Business Mailing List
- NPDES Site
- Mine
- AST
- Toxic Release Inventory
- SARA Title III Site (EPCRA)
- Recharge Point
- Injection Well
- Group1 Site
- Cyanide Site
- Landfill
- Wastewater Land App.Site

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PWS# 3440005
WELL #2 & #3

Table 1. Lakey's Hot Springs Mobile Manor #1 Well #1, Potential Contaminant Inventory

Source Description	TOT Zone[1] (years)	Source of Information	Potential Contaminants[2]
Weiser River	0-3, 3-6, 6-10	GIS Map	IOC, VOC, SOC, Microbes
Union Pacific Railroad	0-3, 3-6, 6-10	GIS Map	IOC, VOC, SOC, Microbes

[1] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[2] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Table 2. Lakey's Hot Springs Mobile Manor #1 Well #2 and #3, Potential Contaminant Inventory

Site #	Source Description	TOT Zone[1] (years)	Source of Information	Potential Contaminants[2]
1	Geothermal	0-3	Database Search	IOC
2	Sand and Gravel Pit	0-3	Database Search	IOC, VOC, SOC
	Weiser River	0-3, 3-6, 6-10	GIS Map	IOC, VOC, SOC, Microbes
	Union Pacific Railroad	0-3, 3-6, 6-10	GIS Map	IOC, VOC, SOC, Microbes

[1] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[2] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

Hydrologic sensitivity was moderate for Well #1 (Table 3). This reflects the nature of the soils being in the well-drained to moderately-drained class and the vadose zone (zone from land surface to the water table) being made predominantly of fractured basalt, and the first ground water being located within 300 feet of ground surface. Hydrologic sensitivity was high for Wells #2 and #3 (Table 3) This reflects the nature of the soils being in the well-drained to moderately-drained class and the first ground water being located within 300 feet of ground surface. Additionally, Wells #2 and #3 do not have laterally extensive low permeability units that could retard downward movement of contaminants.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. Lakey's Hot Springs Mobile Manor #1drinking water system consists of three wells that extract ground water for residential, commercial, and industrial uses. Well #1 had arsenic problems in the past and was disconnected from the system. Well #1 is now used as a single domestic well. The well system construction scores were moderate for Wells #1 and #2 and high for Well #3.

A sanitary survey for the three wells was completed in July 1997 to determine if the wells were in compliance with wellhead and surface seal standards. Each of the wells has a maintained wellhead seal, however, they lack a downturned, screened casing vent.

Well logs were available for Wells #1 and #2 only. No determination could be made as to whether Well #3 was properly constructed to meet IDWR standards since the well log was not available. Both Well #1 and Well #3 are in the 100-year floodplain.

The Well #1 log shows that the annular seal extends to 21 feet bgs into a low permeability clay layer. The well uses 0.250-inch thick, 6-inch diameter casing extending to the total depth of the well, 100 feet bgs, into black basalt. The water table was identified at 9 feet bgs. No perforations were installed in this well. Though the well may have been in compliance with standards when it was drilled in 1994, current PWS well construction standards are more stringent.

The Well #2 log shows that the annular seal extends to 20 feet bgs into a clay and gravel layer. The well has 0.250-inch thick, 8-inch diameter steel casing from ground surface to 38 feet bgs into a water producing clay and gravel. There is uncased hole from 38 feet bgs to 76 feet bgs. The water table was identified at 4 feet bgs. No perforations were installed in this well. Though the well may have been in compliance with standards when it was drilled in 1983, current PWS well construction standards are more stringent.

The IDWR Well Construction Standards Rules (1993) require all PWSs to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the Recommended Standards for Water Works (1997) during construction. Table 1 of the Recommended Standards for Water Works (1997) lists the required steel casing thickness for various diameter wells. Eight-inch diameter casing on wells requires a casing thickness of at least 0.322 inches. Six-inch diameter casing on wells requires a casing thickness of at least 0.280 inches. Wells #1 and #2 have only 0.250-inch thick casing.

Potential Contaminant Sources and Land Use

Well #1 rated low for microbial contaminants as only two potential contaminant sources, the Union Pacific Railroad and the Weiser River, exist within the delineation. Well #1 rated moderate for IOCs (i.e. nitrates), SOCs (i.e. pesticides), VOCs (i.e. petroleum products) because of the detection of arsenic above the MCL and the two potential contaminant sources in the delineation. Wells #2 and #3 rated moderate for microbial contaminants due to land use and four potential contaminant sources in the delineation, the Union Pacific Railroad, the Weiser River, a sand and gravel operation, and a geothermal site. Wells #2 and #3 rated high for IOCs, SOCs, and VOCs land use, four potential contaminant sources in the delineation, and the detection of arsenic above the MCL.

The only significant water chemistry problems that have been recorded in the system are from arsenic and total coliform bacteria detections. DEQs Drinking Water Information Management System (2001) lists IOC nitrate detections from June 1999 to November 2000, but at levels well below the MCL. No detections of VOCs or SOCs were recorded.

Final Susceptibility Ranking

A detection above a drinking water standard MCL or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0 to 3-year time of travel zone (Zone 1B) and a large percentage of agricultural land contribute greatly to the overall ranking. In terms of total susceptibility, all three wells rate automatically high for IOC contamination due to arsenic detections in the well manifold which exceeded the MCL. Since the detection occurred in the manifold, all three wells were assigned the IOC detection. Well #1 rated moderate for VOC, SOC, and microbial

contamination susceptibility. In terms of total susceptibility, Wells #2 and #3 rated high for all potential contamination categories.

Table 3. Summary of Lakey's Hot Springs Mobile Manor #1 Susceptibility Evaluation

Well	Susceptibility Scores[1]									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well #1	M	M	M	M	L	M	H*	M	M	M
Well #2	H	H	H	H	M	M	H	H	H	H
Well #3	L	H	H	H	M	H	H	H	H	H

[1]H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility,
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical
H* = Rated high automatically due to a detection of arsenic above the MCL

Susceptibility Summary

Arsenic and total coliform bacteria detections represent the only significant water chemistry problems that have been recorded in the public water system. The IOC nitrate was detected from June 1999 to November 2000, but at levels well below the MCL. No detections of VOCs or SOCs were recorded.

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. A community with a fully developed source water protection program will incorporate many strategies. For Lakey's Hot Springs Mobile Manor #1, source water protection activities should focus on implementation of practices aimed at protecting the area nearest the wells. Lakey's Hot Springs Mobile Manor #1 should also be diligent about local businesses that are regulated by the various environmental regulations (RCRA, CERCLA, SARA) or those with potential inorganic contaminants. Though water quality is generally good for Lakey's Hot Springs Mobile Manor #1, the highly fractured nature of the Columbia River basalt could lead to cross-contamination from shallower fractures to deeper fractures depending on well construction. Any surface releases should be monitored closely to prevent contaminants from infiltrating to the ground water producing zones. Some of the designated source water protection areas are outside the direct jurisdiction of Lakey's Hot Springs Mobile Manor #1. Partnerships with state and local agencies and industry groups should be established and are critical to success. Continued vigilance in keeping the well protected from surface flooding can also keep the potential for contamination reduced. Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil and Water Conservation District, and the Natural Resources Conservation Service.

Assistance

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Boise Regional DEQ Office (208) 373-0550

State DEQ Office (208) 373-0502

Website: http://www2.state.id.us/deq

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at (208) 743-6142 for assistance with wellhead protection strategies.

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as "Superfund" is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

References Cited

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Attachment A

Lakey's Hot Springs Mobile Manor #1
Susceptibility Analysis
Worksheet

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

1. System Construction		SCORE			
Drill Date	6/7/88				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	19970			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	NO	1			
Total System Construction Score		3			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
Total Hydrologic Score		3			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	YES	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	2	2	2	2
(Score = # Sources X 2) 8 Points Maximum		4	4	4	4
Sources of Class II or III leacheable contaminants or	YES	2	2	2	
4 Points Maximum		2	2	2	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		6	6	6	4
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		3	3	3	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		2	2	2	0
Cumulative Potential Contaminant / Land Use Score		13	13	13	6
4. Final Susceptibility Source Score		9	9	9	8
5. Final Well Ranking		High*	Moderate	Moderate	Moderate

* High ranking due to an arsenic detection above the MCL.

1. System Construction		SCORE				
Drill Date		8/2/83				
Driller Log Available		YES				
Sanitary Survey (if yes, indicate date of last survey)		YES	1997			
Well meets IDWR construction standards		NO	1			
Wellhead and surface seal maintained		NO	1			
Casing and annular seal extend to low permeability unit		YES	0			
Highest production 100 feet below static water level		NO	1			
Well located outside the 100 year flood plain		YES	0			
	Total System Construction Score		3			
2. Hydrologic Sensitivity						
Soils are poorly to moderately drained		NO	2			
Vadose zone composed of gravel, fractured rock or unknown		YES	1			
Depth to first water > 300 feet		NO	1			
Aquitard present with > 50 feet cumulative thickness		NO	2			
	Total Hydrologic Score		6			
3. Potential Contaminant / Land Use - ZONE 1A			IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND		2	2	2	2
Farm chemical use high		NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A		YES	YES	NO	NO	NO
	Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2
Potential Contaminant / Land Use - ZONE 1B						
Contaminant sources present (Number of Sources)		YES	4	4	4	2
(Score = # Sources X 2) 8 Points Maximum			8	8	8	4
Sources of Class II or III leacheable contaminants or		YES	3	3	3	
4 Points Maximum			3	3	3	
Zone 1B contains or intercepts a Group 1 Area		NO	0	0	0	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land		4	4	4	4
	Total Potential Contaminant Source / Land Use Score - Zone 1B		15	15	15	8
Potential Contaminant / Land Use - ZONE II						
Contaminant Sources Present		YES	2	2	2	
Sources of Class II or III leacheable contaminants or		YES	1	1	1	
Land Use Zone II	25 to 50% Irrigated Agricultural Land		1	1	1	
	Potential Contaminant Source / Land Use Score - Zone II		4	4	4	0
Potential Contaminant / Land Use - ZONE III						
Contaminant Source Present		YES	1	1	1	
Sources of Class II or III leacheable contaminants or		YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of		NO	0	0	0	
	Total Potential Contaminant Source / Land Use Score - Zone III		2	2	2	0
Cumulative Potential Contaminant / Land Use Score			23	23	23	10
4. Final Susceptibility Source Score			14	14	14	13
5. Final Well Ranking			High	High	High	High

1. System Construction		SCORE				
Drill Date		1/1/87				
Driller Log Available		NO				
Sanitary Survey (if yes, indicate date of last survey)		YES	1997			
Well meets IDWR construction standards		NO	1			
Wellhead and surface seal maintained		NO	1			
Casing and annular seal extend to low permeability unit		NO	2			
Highest production 100 feet below static water level		NO	1			
Well located outside the 100 year flood plain		NO	1			
	Total System Construction Score		6			
2. Hydrologic Sensitivity						
Soils are poorly to moderately drained		NO	2			
Vadose zone composed of gravel, fractured rock or unknown		YES	1			
Depth to first water > 300 feet		NO	1			
Aquitard present with > 50 feet cumulative thickness		NO	2			
	Total Hydrologic Score		6			
3. Potential Contaminant / Land Use - ZONE 1A			IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND		2	2	2	2
Farm chemical use high		NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A		YES	YES	NO	NO	NO
	Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2
Potential Contaminant / Land Use - ZONE 1B						
Contaminant sources present (Number of Sources)		YES	4	4	4	2
(Score = # Sources X 2) 8 Points Maximum			8	8	8	4
Sources of Class II or III leacheable contaminants or		YES	3	3	3	
4 Points Maximum			3	3	3	
Zone 1B contains or intercepts a Group 1 Area		NO	0	0	0	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land		4	4	4	4
	Total Potential Contaminant Source / Land Use Score - Zone 1B		15	15	15	8
Potential Contaminant / Land Use - ZONE II						
Contaminant Sources Present		YES	2	2	2	
Sources of Class II or III leacheable contaminants or		YES	1	1	1	
Land Use Zone II	25 to 50% Irrigated Agricultural Land		1	1	1	
	Potential Contaminant Source / Land Use Score - Zone II		4	4	4	0
Potential Contaminant / Land Use - ZONE III						
Contaminant Source Present		YES	1	1	1	
Sources of Class II or III leacheable contaminants or		YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of		NO	0	0	0	
	Total Potential Contaminant Source / Land Use Score - Zone III		2	2	2	0
Cumulative Potential Contaminant / Land Use Score			23	23	23	10
4. Final Susceptibility Source Score			17	17	17	16
5. Final Well Ranking			High	High	High	High